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M E M O R A N D U M

Public Hearing Date:	April 25, 2011
Zoning and Planning Action Date:	July 11, 2011
Board of Aldermen Action Date:	July 18, 2011
90-Day Expiration Date:	July 22, 2011

DATE: May 6, 2011

TO: Alderman Marcia T. Johnson, Chairman, and
Members of the Zoning and Planning Committee

FROM: Candace Havens, Director of Planning and Development
Jennifer Molinsky, Interim Chief Planner for Long-Range Planning
Seth Zeren, Chief Zoning Code Official

RE: **Working Session**

- **Petition #17-11.** Terrence P. Morris, Joseph Porter, Bruce Bradford, George Collins, Verne T. Porter, Jr., and Michael Peirce, proposing an amendment to the zoning ordinance for the purpose of changing the definition of "Grade Plane" and adding a new definition of "Average Grade."
- **Petition #65-11.** *Terrence P. Morris & Joseph Porter* proposing an amendment to the zoning ordinance to change the definition of "height" with a concomitant increase in the height to the pre-1997 limits; to make height exceptions in accessory buildings subject to special permit rather than a variance.

CC: Mayor Setti D. Warren
Board of Alderman
Planning and Development Board
John Lojek, Commissioner, Inspectional Services Department
Marie Lawlor, Assistant City Solicitor

I. BACKGROUND AND SUMMARY

On April 25, the Zoning and Planning Committee held a public hearing on two related Petitions (#17-11 and #65-11) concerning changes to the definition and regulation of "grade plane" and "height." This memorandum has been prepared in response to specific questions and inquiries made my members of the Committee, the Planning and Development Board, the Board of Aldermen, and the public. (Please see the Planning Department memoranda dated April 22, 2011 for more detailed explanations of the proposed amendments.)

II. ANSWERS TO QUESTIONS

On sloping lots, the current method of calculating grade plane may produce a result that is less than an average grade plane. Is this the intention of the current policy?

The Planning Department Memorandum associated with petition #79-99, through which the current grade plane definition was adopted, does not say whether the intent was to produce an average grade plane or some lower-than-average plane. The language of the current definition and of other regulations in the Zoning Ordinance that employ grade plane points to the intent being a true average grade plane. The current definition of grade plane refers to "a reference plane for a building as a whole representing the average of finished grounds level…" The current definition of basement also refers to "average grade plane." In 2008, Ordinance Z-20 changed the definition of height, replacing "grade plane" with "average grade plane." However, the current definition does not achieve a true average. The definition proposed in petition #17-11 would achieve a more easily verifiable, consistent, and truly average grade plane.

How would the change in grade plane affect the determination of basements and the number of stories?

For residences in Newton, a basement is defined as a floor in which one half or more of the distance between the floor and the ceiling is below the "average grade plane." For homes that exist now, there are two issues of concern regarding the determination of basements. The first issue centers on the current policy, which is now being more strictly enforced by the Inspectional Services Department (ISD). Prior to ISD's clarification about the calculation of grade plane that was issued last December, many calculations of grade plane produced results that were higher than would be consistent with a strict application of the grade plane ordinance. The stricter enforcement of the grade plane policy could matter to some homes on steep slopes, where the determination about basements is a close call. Were these homes to seek to make an addition today and present a survey under the rules of the December clarification, which would likely show a lower average grade plane than might have been calculated before December, it is possible that their basement would actually count as a first story, potentially making the house nonconforming with respect number of stories and Floor Area Ratio. If so, these homes would then require a special permit for otherwise by-right additions today. However, the City lacks the data that would be necessary to accurately determine the number of "basements" that would potentially be affected.

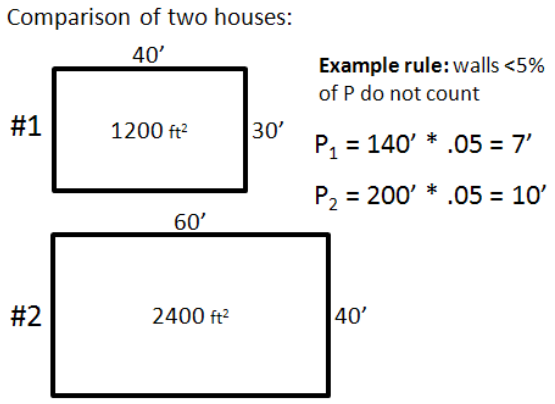
The change in the definition of grade plane proposed in petition #17-11 could also affect the determination of basements in the future. The length-weighted mean method would change the grade plane calculation by one or two feet in most cases, and so only those homes on steeply

sloped lots where basement determinations are close calls would be affected. These homes, the same that may be placed in nonconformity now under the stricter enforcement of the policy, may be placed back into conformity under the petition.

For new construction, the general effect of the proposed amendments is difficult to predict precisely, as any calculation of grade plane in part relies on the design and siting of each house. Story and basement determinations and overall height for houses on more or less flat lots will not be greatly affected by the change in grade plane definition. Houses on steeply-sloped lots or with basement garages will receive a moderate increase in their grade plane of one to two feet on average, with a corresponding increase in allowed height over the recent more strictly-enforced standard. The revised height regulation would eliminate one of several incentives to build steeply sloped roofs, but building heights in general would remain roughly unchanged and would be more easily verified and enforced.

Why use six feet in limiting the effect of minor architectural features on the calculation of grade plane? Why not a percentage of the perimeter?

The determination to use six feet was made in consultation between ISD and Planning Department staff as a compromise between setting too large a limit, which would potentially exempt significant portions of structures, and too small a limit, which would not prevent architectural "gaming" of grade plane which this provision is intended to prevent. In response to inquiries during the public hearing, Planning Department staff did consider a percentage approach to determining which "minor" walls would be exempt from grade plane calculations (see figure to right). In general, such a method adds a significant amount of additional complexity both for surveyors and inspectors for little improvement in the outcome of this provision. Also, while equal in terms of percentage, larger segments would be exempt for larger homes than for smaller homes.

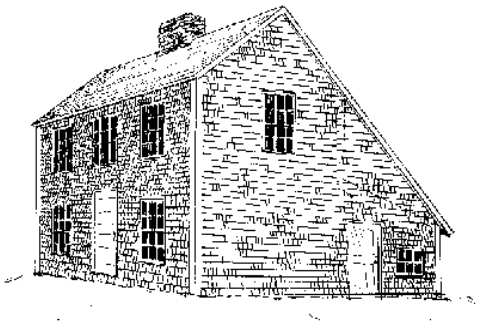


Why do the petitions propose changing back to the way height was regulated before?

The proposed changes are not a return to a previous method of measuring height. The 1997 amendment made several significant changes to the pre-1997 height regulation, including measuring height to the highest roof surface, eliminating an exception for uninhabitable space, and setting the maximum height at 30 feet in residential zones. In 1999 the "midpoint" calculation was introduced, which had the effect of increasing absolute building height and encouraging sloping roofs. The proposed change is a further refinement; measuring to the highest point of the roof is easily comprehensible, regulates absolute height, and is easy for building inspectors to verify and enforce. The complementary increase in building height is an attempt to preserve broadly equivalent outcomes under the new definition. The existing 2½-story limit still provides an incentive for a sloping roof (as the half story must be under a "sloping roof").

Why not clarify the existing mid-point method?

Though it would be possible to revise the use of "wall plate," a problematic term in the existing definition that likely resulted from a scrivener's error, or to otherwise improve the language of the existing definition, the mid-point approach will always be fundamentally more confusing and difficult to verify and enforce. Any method that relies on an imaginary projection, or the intersection of two planes, or a construction feature that is located within a wall will be difficult for building inspectors to verify. In contrast, the maximum height of a structure is easily verified by measurement and can be easily enforced. Furthermore, the existing approach is difficult to apply to structures that have compound or asymmetrical roofs. For example, in the salt-box house to the right, it is unclear where to draw the mid-point.



What is the potential impact of the height petition on roof pitch?

The proposed change would eliminate one incentive for steeper pitched roofs. The requirement that the half story of a 2½-story residential structure be under a sloping roof would remain as an incentive for sloping roofs. The Committee could consider the approach used in Weston, MA, where the height limit (measured to the "highest point") is 37 feet under a sloping roof and 32 feet under a flat roof.

What is the intent of height limits? Can the Zoning Ordinance allow for different height limits in different neighborhoods?

Height limits are a core dimensional control instituted to limit the impacts of development on neighbors and to ensure new development is compatible with neighborhood character. Currently, Newton's many diverse residential neighborhoods are regulated under zoning districts that are applied city-wide with uniform standards. Neighborhood-specific regulations would require a change of zone, neighborhood overlay districts, or an adaptive standard where height limits depended on the heights of nearby structures.

Should the Board consider revisiting the exceptions to height?

The Planning Department and ISD see no pressing need to revisit these exceptions. The existing exceptions to height have been in place for over twenty years without any serious problems.

What is the potential impact of the proposed height changes on institutional uses?

Section 30-15 Table 2 regulates dimensions, including height, for religious and non-profit educational uses. All zoning requirements for such uses (typically protected under the "Dover Amendment" MGL Chapter 40A, Section 3) must meet a stricter standard of reasonableness. Currently, Table 2 limits the heights of these structures (which frequently have sloping roofs and would thus be impacted by the definition change) to 36 feet and three stories. However, footnote 4 of Table 2 allows structures an additional story per 150 feet of setback, "not to exceed 6 stories or 60 feet." Because the petition recommends changing the way height is measured for all structures in the City but does not propose amending the height limit for institutional uses, the proposed definition would effectively reduce the allowed height for such institutional uses with sloped roofs (bearing in mind that ornamental domes or spires are still exempted) and remove the only zoning incentive (higher absolute height) for sloping roofs on such structures. Structures located at least

450 feet from the property line can now conceivably be six stories and 60 feet tall to the top of a flat roof or the midpoint of a sloping roof; under the proposed definition, they could be 60 feet tall to the peak of the roof. Assuming 10 foot tall floors and a sloping roof, the proposed definition would somewhat constrain the ability to use the upper most floor (which would be under the eaves in either case). If the Committee is concerned about increasing the constraints on institutional uses, the Committee could amend Table 2 to allow an additional six feet of building height for structures with sloping roofs or insert a similar amendment (which would require a separate petition and hearing).

For the definition of height, is there a generally-agreed upon definition of "surface?" Why not use "the highest point?"

Planning Department Staff have considered this question and conferred with ISD staff and concur that the term "surface" may be difficult to interpret as it does lack a generally-agreed upon definition. We have revised the proposed language to read "to the highest point."

How would the proposed changes interact with the new FAR rules?

The proposed grade plane definition potentially impacts the determination of whether some floors count as basements or first floors. The new FAR rules contain a provision for including a fraction of the basement area in FAR (a percentage of the perimeter more than 4' out of the ground) so the impact of the changed grade plane definition would be muted compared with current FAR regulations, where basements are wholly exempt from FAR. The proposed height regulations would also have little interaction with the new FAR rules.

How would the proposed changes affect the projects at 37 Sullivan Ave and at Francis and Elliot Streets?

ISD staff has examined the proposed plans for both these structures. It should be noted that neither is at finished grade, which will significantly affect their final appearances. In both cases, ISD staff found that the structures are very close to the existing height limit. David Norton, Zoning Enforcement Agent, writes: "…looking at them in their current condition, the new ordinance would make them too tall and they would have to make building or grade adjustments. With the new ordinance it would make it a lot easier for the inspector to verify and make it easier to enforce."

III. PLANNING DEPARTMENT CLARIFICATION ON VARIANCES

At the public hearing, the petitioner cited a list of specific dimensional and density requirements which may be waived by special permit. It is true that Section 30-15(m), which relates to accessory buildings, is the only regulation of the Ordinance that specifically calls out requiring a "variance" for relief. In general, however, exceeding any particular dimensional or density standard without a previous legal nonconformity requires a variance. For example: a variance would be required to subdivide a lot into lots smaller than post-1953 standards; a variance would be required for an existing structure to expand into a required side or front setback that is currently conforming; a variance would be required for a primary structure to exceed the maximum allowed height, unless it is already legally nonconforming with regard to height; and so forth. It is unclear why this particular provision of Section 30-15 specifically calls out "variance." Removal of that clause would result in the same outcome.

Planning staff reviewed the petitioner's memo and found that the majority of cases cited where relief can be sought through a special permit rather than a variance are not comparable to the provision in petition #65-11, which seeks to make height exceptions in accessory buildings subject to a special permit. In a few cases (such as Open Space Developments, per Section 30-15(k), and in Business zones, per Section 30-15(h)) a special permit is allowed to modify what would be allowed by right, but only to an established maximum beyond which a variance would be required. There is no comparable relief from dimensional controls for typical structures and uses in residential zones.

The rationale that has been advanced for the proposed change is that it would make it easier for property owners to re-create carriage houses in traditionally Victorian areas of the City; however, such a provision would apply citywide, not just to areas where such enlarged accessory structures would be appropriate. Accessory structures currently also benefit from reduced required setbacks. An increase in height would allow owners to build significantly more massive accessory structures, approaching the size of the main house, close to their neighbors' property, subject to special permit.

This aspect of the proposal seems to express a novel goal of allowing new structures to match an historic, but currently nonconforming, building fabric or architectural period. This approach would require revisiting not only accessory structure height, but also other aspects of neighborhood building character including setbacks, open space, lot size, and primary structure height, among others. This stands in contrast to the general purpose of the other aspects of these petition items which is to make existing regulations and concepts more clear, more consistent, and more verifiable in as outcome-neutral a method as possible.

If the Committee decides that this change in relief is appropriate, the Planning Department recommends that the provision include specific criteria for the granting of the special permit and a limit on the maximum height.

IV. REVISED PROPOSED LANGUAGE

Delete existing definition of grade plane and replace it with the following:

Sec. 30-1 Grade plane: A horizontal reference plane for a building as a whole, passing through the elevation of the finished Average Grade around the perimeter of a building, from which building height is determined.

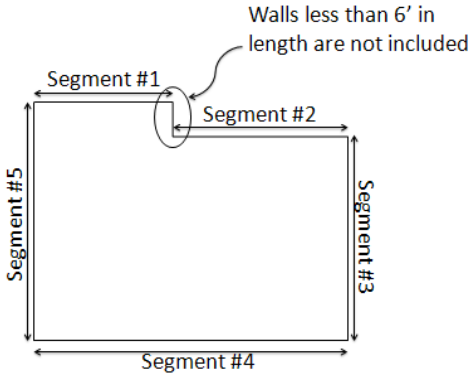
Sect. 30-1 Grade, Average: The average of the grade elevations around the perimeter of a building, as determined by the length-weighted mean formula below. All walls of length greater than six feet shall be included in segments of consistent grade or slope.

$$\frac{\Sigma[(e1 + e2)/2 \times L]}{P}$$

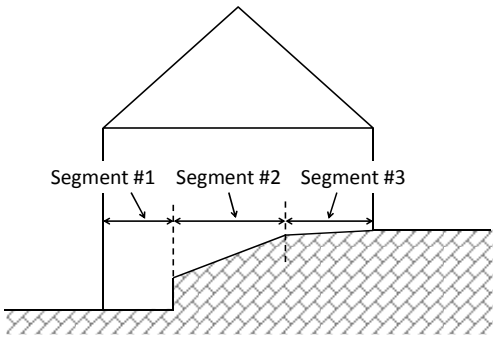
Where:

- Σ sums the weighted average grades of all segments;
- e1 and e2 are the elevations of the finished ground level at the respective ends of each segment, determined as the lowest point at each end of the segment within six feet of the foundation or the lot line, which ever is closer;
- L is the corresponding horizontal length of the segment; and
- P is total horizontal length of all segments.

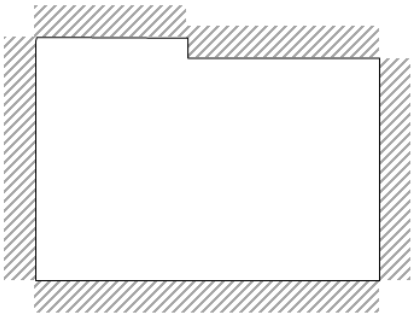
Delete the existing images and replace them with the following:



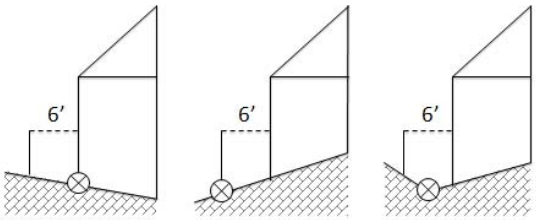
Determining Segments
Plan View



Segments of constant grade or slope
Section View



Segment ends use lowest elevation within 6'
Plan View



Segment ends use lowest elevation within 6'
View along segment

Delete existing definition of “Height” in 30-1 and replace it with:

> *Section 30-1: Height*: The vertical distance between the elevations of the following: (a) the average grade plane and (b) ~~**the peak of the roof line**~~ **the highest point of the roof**. Not included in such measurements are 1) cornices which do not extend more than five (5) feet above the roof line; 2) chimneys, vents, ventilators and enclosures for machinery of elevators which do not exceed fifteen (15) feet in height above the roof line; 3) enclosures for tanks which do not exceed twenty (20) feet in height above the roof line and do not exceed in aggregate area ten (10) per cent of the area of the roof; and 4) towers, spires, domes and ornamental features.

Amend definition of “Height, Contextual in 30-1:

> *Section 30-1: Height, Contextual:* The vertical distance between the elevations of the following: (a) the Newton Base Elevation utilized by the city as implemented by the engineering division of the department of public works and (b) ~~**the mid-point between the highest point of the ridge of the roof and the line formed by the intersection of the wall plane and the roof plane**~~ **the highest point of the roof**. Not included in such measurements are 1) cornices which do not extend more than five (5) feet above the roof line; 2) chimneys, vents, ventilators and enclosures for machinery of elevators which do not exceed fifteen (15) feet in height above the roof line; 3) enclosures for tanks which do not exceed twenty (20) feet in height above the roof line and do not exceed in aggregate area ten (10) per cent of the area of the roof; and 4) towers, spires, domes and other ornamental features.

Amend “building height” in Sec. 30-15 Table 1 for all Single Residence Districts, changing “30” to “36,” and changing the building height for all Multi-Residence Districts currently limited to “30” to “36.”

Amend Sec. 30-15(m)(2) as follows:

> (2) The maximum height of each accessory building shall not exceed ~~**eighteen (18) feet**~~ **22 (twenty-two) feet.**